LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A probe device for testing a circuit under test and electrodes or wires of a display substrate providing a two-dimensional array of drive circuits on a substrate for a display substrate comprising a circuit under test, which is an electronic circuit comprising a plurality of thin-film transistors, and the electrode or wire connected to said circuit under test, and at least said circuit under test constructs a drive circuit for driving each pixel of the display, wherein

relatively high-density plasma is generated between said electrode or wire and a test electrode,

a test signal is transmitted between said electrode or wire and said test electrode through said plasma, and

said circuit under test can be tested without contact with said electrode or wire, wherein said plasma has a plasma density that can produce a current flowing in said circuit under test of between about 1 μA to 10 μA.

2. (Original) The probe device of claim 1, wherein said plasma is continuously generated over a plurality of units of said drive circuit; only the specified drive circuit being tested is set in the on state; and the electrical characteristics of said specified drive circuit are tested by applying said test signal to said specified drive circuit.

3. (Currently amended) The probe device of claim 1, wherein a control electrode is disposed between said test electrode and said electrode or wire, and the excess level of said test signal transmitted through said plasma is controlled by controlling [[the]] a potential applied to said control electrode.

4. (Original)The probe device of claim 2, wherein two bias power supplies connected independently to said test electrode and said circuit under test are provided; and the electric fields near the interface of said plasma and the test electrode and the interface of said plasma and said electrode or wire can be controlled by one or both of said bias power supplies.

5. (Original)The probe device of claim 1, wherein the electrical characteristics of said drive circuit are tested by separating and generating said plasma on said substrate corresponding to the position of each unit of said drive circuit, said test electrode is disposed at every separated position, and said test signal is applied to said drive circuit at each position.

6. (Original) The probe device of claim 1, further comprising a plasma generation source for generating said plasma and a chamber structure for confining said plasma and releasing said plasma to at least said electrode or wire of said drive circuit.

7. (Currently amended) The probe device of claim [[1]] 6, further comprising exhaust for exhausting said plasma or an air curtain is disposed at positions along the outer periphery of said chamber structure.

8. (Cancelled).

9. (Original) The probe device of claim 1, wherein said plasma is chemically inert relative to said electrode or wire.

10. (Original) The probe device of claim 1, wherein said plasma includes a composition that ionizes at least oxygen.

11. (Currently amended) A display substrate testing apparatus comprising a circuit under test, which is an electronic circuit comprising a plurality of thin-film transistors, and electrodes or wires connected to said circuit under test comprises:

a probe device for testing a circuit under test and electrodes or wires of a display substrate providing a two-dimensional array of drive circuits on a substrate for a display substrate comprising a circuit under test, which is an electronic circuit comprising a plurality of thin-film transistors, and the electrode or wire connected to said circuit under test, and at least said circuit under test constructs a drive circuit for driving each pixel of the display, wherein relatively high-density plasma is generated between said electrode or wire and a test electrode, a test signal is transmitted between said electrode or wire and said test electrode through said plasma, and said circuit under test can be tested without contact with said electrode or wire;

a signal generation source for generating a test signal provided to said electrode or wire; and

a signal comparator for comparing said test signal and the output signal that is output from said drive circuit when said test signal is applied through said plasma and said electrode or wire to each of said drive circuits on said substrate, wherein said plasma has a plasma density that can produce a current flowing in said circuit under test of between about 1 μA to 10 μA.

12. (Original) The display substrate testing apparatus of claim 11, wherein a means for X-Y motion for moving the probe device in the horizontal direction in two dimensions along the electronic circuit under test or the display substrate surface is provided.